



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Itai BAB et al.

Appl. No: 10/766,527

Confirmation No: 2819

Filed: January 29, 2004

For: OSTEOGENIC GROWTH OLIGO-
PEPTIDES AS STIMULANTS OF
HEMATOPOIESIS

Art Unit: 1646

Examiner: Not Yet Assigned

Atty. Docket No: 31949-200571

Customer No:

26694

PATENT TRADEMARK OFFICE

Information Disclosure Statement

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Information Disclosure Statement submitted under 37 C.F.R. § 1.97 within the time specified under 37 C.F.R. § 1.97(b).

In order to comply with applicant's duty of disclosure under 37 C.F.R. § 1.56, the U.S. Patent and Trademark Office is notified of the documents which are listed on the attached Form PTO/SB/08A and which the Examiner may deem relevant to patentability of the claims of the above-identified application. One copy of each of the listed documents is submitted herewith.

The relevance of documents A1-A49 are cited throughout the application.

The present Information Disclosure Statement is being filed before the mailing date of the first Office Action on the merits, and therefore no Statement Under 37 C.F.R. § 1.97(e) or fee under 37 C.F.R. § 1.17(p) is required.

Applicant: Itai BAB
Attorney's Doc. No. 31949-200571

In view of the above, no further translation or statement of relevance is required, and as all requirements of 37 C.F.R. § 1.97 and all official guide lines pertaining to Information Disclosure Statements have been complied with, and it is therefore respectfully requested that the Examiner consider the documents and make them of record.

Please charge any necessary fee or credit any overpayment in connection with this Information Disclosure Statement to Deposit Account No. 22-0261.

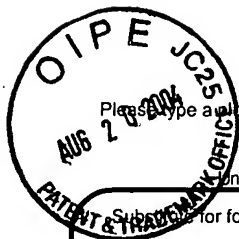
Respectfully submitted,

Date: 8/20/04



Ann S. Hobbs
Registration No. 36,830
VENABLE LLP
P.O. Box 34385
Washington, D.C. 20043-9998
Telephone: (202) 344-4000
Telefax: (202) 344-8300

DOCS#563938



Please type a plus sign (+) inside this box →



PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Submit this form for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/766,527
Filing Date	January 29, 2004
First Named Inventor	Itai BAB
Group Art Unit	1646
Examiner Name	Not Assigned
Attorney Docket Number	31949-200571

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	A1	4,485,045		REGEN	11-27-1984	
	A2	4,544,545		RYAN et al.	10-01-1985	
	A3	5,013,556		WOODLE et al.	05-07-1991	
	A4	5,461,034		RODAN et al.	10-24-1995	
	A5	5,472,867		KANZ et al.	12-05-1995	
	A6	5,814,610		BAB et al.	09-29-1998	

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ₆
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
	A7	WO	94/20529	A1		09-15-1994		
	A8	WO	95/00166	A1		01-05-1995		

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	A9	Y.C.CHEN et al., "Structure-bioactivity of C-terminal pentapeptide of osteogenic growth peptide [OGP (10-14)]", XP-000958947, J. Peptide Res. 2000, 56: 147-156.	
	A10	S. AMSEL et al., "The Significance of Intramedullary Cancellous Bone Formation in the Repair of Bone Marrow Tissue", Anat. Rec. 1969, 164: 101-110.	
	A11	E. ASHIHARA et al., "FLT-3 ligand mobilizes hematopoietic primitive and committed progenitor cells into blood in mice", Europ. J. Haematol 1998, 60: 86-92.	
	A12	I. BAB et al., "Isolation of mitogenically active C-terminal truncated pentapeptide of osteogenic growth peptide from human plasma and culture medium of murine osteoblastic cells", J. Peptide Res. 1999, 54: 408-414.	
	A13	ITAI A. BAB, DMD, "Regulatory Role of Osteogenic Growth Peptide in Proliferation, Osteogenesis, and Hemopoiesis", Clin. Orthop. 1995, 313: 64-69.	
	A14	GIOVANNI BAROSI et al., "The Italian Consensus Conference on Diagnostic Criteria for Myelofibrosis with Myeloid Metaplasia", British Journal of Haematology 1999, 104: 730-737.	
	A15	D. BONNET et al., "Cytokine treatment or accessory cells are required to initiate engraftment of purified primitive human hematopoietic cells transplanted at limiting doses into NOD/SCID mice", Bone Marrow Transplantation 1999, 23: 203-209.	
	A16	WOLFRAM BRUGGER et al., "Mobilization of Peripheral Blood Progenitor Cells by Sequential Administration of Interleukin-3 and Granulocyte-Macrophage Colony-Stimulating Factor Following Polychemotherapy With Etoposide, Ifosfamide, and Cisplatin", Blood 1992, 79: 1193-1200.	
	A17	B. BUNGART et al., "Differential effect of recombinant human colony stimulating factor (rh G-CSF) on stem cells in marrow, spleen and peripheral blood in mice", British Journal of Haematology 1990, 76: 174-179.	
	A18	MILOS CHVAPIL, "Pharmacology Of Fibrosis: Definitions, Limits And Perspectives" Life Sciences 1975, 16: 1345-1361.	
	A19	IANA DA PRATO et al., "Differential activity of glycosaminoglycans on colony-forming cells from cord blood. Preliminary results", Leukemia Research 1999, 23: 1015-1019.	
	A20	T.M. DEXTER et al., "Growth and differentiation in the hemopoietic system", Ann. Rev. Cell Biol. 1987, 3: 423-441.	

A21	NAGWA S. EL-BADRI et al., "Osteoblasts promote engraftment of allogeneic hematopoietic stem cells", Exp. Hematol. 1998, 26: 110-116.	
A22	DEBORAH A. EPPSTEIN et al., "Biological activity of liposome-encapsulated murine interferon γ is mediated by a cell membrane receptor", Proc. Natl. Acad. Sci. USA 1985, 82: 3688-3692.	
A23	JOSEF FOLDES et al., "Osteogenic Response to Marrow Aspiration: Increased Serum Osteocalcin and Alkaline Phosphatase in Human Bone Marrow Donors", J. Bone Miner. Res. 1989, 4: 643-646.	
A24	CHRISTOPHER C. FRASER et al., "Proliferation of totipotent hematopoietic stem cells <i>in vitro</i> with retention of long-term competitive <i>in vivo</i> reconstituting ability", Proc. Natl. Acad. Sci. USA 1992, 89: 1968-1972.	
A25	NIDAL GABARIN et al., "Mitogenic G α Protein-MAP Kinase Signaling Cascade in MC3T3-E1 Osteogenic Cells: Activation by C-Terminal Pentapeptide of Osteogenic Growth Peptide [OGP (10-14)] and Attenuation of Activation by cAMP", J. Cell Bio. 2001, 81: 594-603.	
A26	HANNA GAVISH et al., "Human α_2 -Macroglobulin Is an Osteogenic Growth Peptide-Binding Protein", Biochemistry 1997, 36: 14883-14888.	
A27	DAVID W. GOLDE, "This master cell creates the key components of the human blood cell and immune systems. Isolating and manipulating the stem cell will lead to new treatments for cancer, immune defects and other disorders", Scientific American 1991, 36-43.	
A28	ZVI GREENBERG et al., "Mitogenic action of osteogenic growth peptide (OGP): role of amino and carboxy-terminal regions and charge", Biochim. et Biophysica Acta. 1993, 1178: 273-280.	
A29	ZVI GREENBERG et al., "Isolation of Osteogenic Growth Peptide From Osteoblastic MC3T3 E1 Cell Cultures and Demonstration of Osteogenic Growth Peptide Binding Proteins", J. Cellular Biochemistry 1997, 65: 359-367.	
A30	J. GROOPMAN, "The Pathogenesis of Myelofibrosis in Myeloproliferative Disorders", Intern. Med. 1980, 92: 857-858.	
A31	OLGA GUREVITCH et al., "Osteogenic Growth Peptide Increases Blood and Bone Marrow Cellularity and Enhances Engraftment of Bone Marrow Transplants in Mice", Blood 1996, 88: 4719-4724.	
A32	KARL J. HWANG et al., "Hepatic uptake and degradation of unilamellar sphingomyelin/cholesterol liposomes: A kinetic study", Proc. Natl. Acad. Sci. USA 1980, 77: 4030-4034.	
A33	ANDREW G. KING et al., "Regulation of Colony-stimulating Activity Production from Bone Marrow Stromal Cells by the Hematopoietic Peptide, HP-5", Exp. Hematol. 1992, 20: 223-228.	
A34	THOMAS A. LANE et al., "Harvesting and Enrichment of Hematopoietic Progenitor Cells Mobilized Into the Peripheral Blood of Normal Donors by Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF) or G-CSF: Potential Role in Allogeneic Marrow Transplantation", Blood 1995, 85: 275-282.	
A35	DONALD METCALF, "Hematopoietic Regulators: Redundancy or Subtlety", Blood 1993, 82: 3515-3523.	
A36	MARCUS O. MUENCH et al., "Bone Marrow Transplantation With Interleukin-1 Plus <i>kit</i> - Ligand Ex Vivo Expanded Bone Marrow Accelerates Hematopoietic Reconstitution in Mice Without the Loss of Stem Cell Lineage and Proliferative Potential", Blood 1993, 81: 3463-3473.	
A37	G. MOLINEUX et al., "The Effects on Hematopoiesis of Recombinant Stem Cell Factor (Ligand for <i>c-kit</i>) Administered In Vivo to Mice Either Alone or in Combination With Granulocyte Colony-Stimulating Factor", Blood 1991, 78: 961-966.	
A38	SEAN J. MORRISON et al., "The purification and characterization of fetal liver hematopoietic stem cells", Proc. Natl. Acad. Sci. USA 1995 92: 10302-10306.	
A39	CHRISTA E. MÜLLER-SIEBURG et al., "The Stromal Cells' Guide to the Stem Cell Universe", Stem Cells 1995, 13: 477-486.	
A40	HARVEY M. PATT et al., "Bone Marrow Regeneration after Local Injury", Exp. Hemat. 1975, 3: 135-148.	
A41	LOUIS M. PELUS et al., "In vivo modulation of hematopoiesis by a novel hematopoietic peptide", Exp. Hemat. 1994, 22: 239-247.	
A42	SHAHIN RAFII et al., "Human Bone Marrow Microvascular Endothelial Cells Support Long-Term Proliferation and Differentiation of Myeloid and Megakaryocytic Progenitors", Blood 1995, 86: 3353-3363.	
A43	VIVIENNE I. REBEL et al., "Amplification of Sea-1 ⁺ Lin ⁻ WGA ⁺ Cells in Serum-Free Cultures Containing Steel Factor, Interleukin-6, and Erythropoietin With Maintenance of Cells With Long-Term In Vivo Reconstituting Potential", Blood 1994, 83: 128-136.	
A44	D. ROBINSON et al., "Osteogenic Growth Peptide Regulates Proliferation and Osteogenic Maturation of Human and Rabbit Bone Marrow Stromal Cells", J. Bone and Min. Res. 1995, 10: 690-696.	
A45	RUSSELL S. TAICHMAN et al., "Human Osteoblasts Support Human Hematopoietic Progenitor Cells in In Vitro Bone Marrow Cultures", Blood 1996, 87: 518-524.	
A46	NICOLA VOLPI et al., "Effects of Glycosaminoglycans on U-937 Leukemia Cell Proliferation and Differentiation: Structure-Function Relationship, Exp. Cell Res. 1994, 215: 119-130.	
A47	JAMES D. WATSON et al., "Novel Factors From Stromal Cells: Bone Marrow and Thymus Microenvironments", Int. J. Cell Cloning 1992, 10: 144-152.	

	A48	DAVID A. WILLIAMS, "Ex Vivo Expansion of Hematopoietic Stem and Progenitor Cells Robbing Peter to Pay Paul?", Blood 1993, 81: 3169-3172.	
	A49	JOHN P. WINEMAN et al., "Maintenance of High Levels of Pluripotent Hematopoietic Stem Cells In Vitro: Effect of Stromal Cells and c- <i>kit</i> ", Blood 1993, 81: 365-372.	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450..

VENABLE
ATTORNEYS AT LAW

+

DOCS#562998